REMARKS

Claims 1 - 6 are now present in this application. Claims 1 and 5 are independent.

Rejections under 35 U.S.C. § 103

Claims 1 – 3 and 5 - 6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,583,837 ("Ogino") in view of U.S. Patent Publication 2002/0158689 ("Harris"). This rejection is respectfully traversed.

Claim 1

Independent claim 1 pertains to a microwave frequency converter that includes, in pertinent part, "an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state; and a control circuit that applies a gain control voltage to the RF amplifier; wherein the control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state during a period of time including a time during which a transmission section performs oscillation and times therebefore and thereafter, and to be in the amplified state during any period of time other than the period of time; and further wherein the RF amplifier does not perform attenuation when its gain value is associated with an amplified state.."

Ogino Interpreted Incorrectly

The Office Action admits and Ogino fails to teach or suggest "an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state" but nonetheless attempts to rely on Ogino for the teachings that the "control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state" and "the RF amplifier does not perform attenuation when its gain value is associated with an amplified state." Applicants respectfully note that this indicates a logically inconsistent interpretation of Ogino. If Ogino fails to teach or suggest "an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state" as required by independent claim 1, then it merely teaches the degenerate case of an amplifier which always amplifies and never attenuates. Therefore to suggest that Ogino teaches or suggests that the "control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state" or that "the RF

amplifier does not perform attenuation when its gain value is associated with an amplified state" is trivial and inconsistent with the scope and nature of independent claim 1 because Ogino's amplifier never performs attenuation.

Applicants therefore respectfully submit that by the admission of Ogino's deficiencies in the Office Action, it is logically impossible for Ogino to teach or suggest that the "control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state" or that "the RF amplifier does not perform attenuation when its gain value is associated with an amplified state" as required by independent claim 1.

Ogino's Loop Gain Is Always Amplification Gain

The Office Action relies on Ogino to teach the "control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state" and "the RF amplifier does not perform attenuation when its gain value is associated with an amplified state" as required by independent claim 1. Applicants respectfully submit that such reliance is incorrect.

With respect to the limitation that the "control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state," applicants respectfully note that Ogino merely teaches applying an attenuation factor to reduce loop gain to "attenuate the oscillation." (Ogino at Col. 7, lines 20 – 23). In other words, the loop gain (which is still an amplification gain) is reduced to prevent excessive amplification of noise.

The loop gain control portion sets the amplification factor to in the loop gain control section "to a multiple of A (A = P * D), where P is a preset multiplication factor." (Ogino at Col. 7, lines 15 – 20). In other words, the attenuation factor is multiplied by a pre-set multiplication factor to produce the value A, which is then multiplied again, and that value is then set as the loop amplification gain. Through this technique, Ogino teaches that "the loop [amplification] gain is forcibly decreased to attenuate the oscillation." (Ogino at Col. 7, lines 20 – 23).

Ogino's attenuation factor is therefore merely used to decrease the amount of loop amplification in order prevent over-amplifying the oscillation. Ogino therefore does not teach or suggest that the "control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state" as required by independent claim 1. Ogino teaches forcibly reducing an amount of loop gain, but does not teach actual signal attenuation in an amplifier.

With respect to the limitation that "the RF amplifier does not perform attenuation when its gain value is associated with an amplified state," Applicants respectfully note that Ogino's loop gain is always a gain value associated with an amplified state. Applicants therefore respectfully submit that it is improper and incorrect to attempt to rely on Ogino for the teaching that "the RF amplifier does not perform attenuation when its gain value is associated with an amplified state" because such a situation will never and could never arise in Ogino. Such an interpretation is similar to suggesting that a crow-bar cannot hammer nails while pulling them out. While technically correct, such a statement is of little avail because a crow-bar cannot hammer nails in any situation. Applicants therefore respectfully submit that it is incorrect and improper to rely on Ogino for the teaching that "the RF amplifier does not perform attenuation when its gain value is associated with an amplified state" as required by independent claim 1.

Summary

At least in view of the above, Applicants respectfully submit that Ogino is deficient in its teachings with respect to independent claim 1. Applicants further submit that Harris is not relied upon, and may not properly be relied upon, to remedy the deficiencies of Ogino. Applicants therefore respectfully submit that the Office Action fails to establish *prima facie* obviousness of independent claim 1. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claim 5

Applicants note that the Office Action states a grounds of rejection for claim 6 that appear to be directed towards claim 5. (Page 4 of Office Action). Applicants therefore presume that the Office Action meant to address claim 5.

Applicants respectfully note that independent claim 5 pertains to a microwave frequency converter comprising, in pertinent part, "an RF amplifier whose gain is adjustable to any value within a range from an amplified state to an attenuated state; and a control circuit that applies a gain control voltage to the RF amplifier; wherein the control circuit controls the gain control voltage such that the gain of the RF amplifier is in the attenuated state during a period of time including a time during which a transmission section performs oscillation and times therebefore and thereafter, and to be in the amplified state during any period of time other than the period of

time; and further wherein both the amplification and attenuation aspects of the amplifier gain are directly controlled by the gain control voltage."

Applicants note that in rejecting independent claim 5, the Office Action provides no rationale for how or why either Ogino or Harris teach or suggest that "both the amplification and attenuation aspects of the amplifier gain are directly controlled by the gain control voltage." Applicants respectfully submit that both Ogino and Harris are deficient in their teachings because neither teaches or suggests that "both the amplification and attenuation aspects of the amplifier gain are directly controlled by the gain control voltage" as required by independent claim 5. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claims 2 – 4

Applicants respectfully submit that claims 2 – 4 and 6 are allowable at least by virtue of their dependency from independent claims 1 and 6. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested..

Allowable Subject Matter

Applicants thank the Examiner for noting that claim 4 would be allowable if re-written in independent form. Applicants wish to pursue patentability of all claims at this time, however.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant(s) therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

In view of the above amendment, Applicant(s) believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Naphtali Y. Matlis, Registration

No. 61592, at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: July 13, 2011

Respectfully submitted,

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